MATH 1170
CALCULUS FOR BIOLOGISTS
Fall Semester, 2016

Time and Place:	MWF 9:40 a.m., JFB B-1
Computer Lab:	Tuesdays as assigned in LCB 115
Instructor:	Professor Fred Adler
Web:	`http://www.math.utah.edu/~adler/math1170/`
email:	adler@math.utah.edu
Office hour:	Wednesdays at 1:00 in LCB 304
Computer lab leader	Chris Miles
email:	miles@math.utah.edu
Text:	F. R. Adler, *Modeling the Dynamics of Life: Third Edition*

The Course. Math 1170 is the first semester of a full year sequence specifically designed for life science majors that covers the mathematics necessary to do biology in this quantitative age by providing an integrated view of modeling, calculus, and calculus-based probability and statistics. The sequence is for students with little or no previous calculus.

Computer Labs. We meet for one hour weekly for a computer lab. Lab assignments are due weekly on the following Tuesday and account for 15% of your grade. The material covered in labs will be fair game for tests.

Homework. Homework will be due as shown on the back. Odd-numbered problems have answers in the back of the book.

Exams. There will be three mid-terms (each with three or four problems), weekly quizzes (5 questions each, plus extra credit), and a comprehensive final (five problems).

Midterm 1 (Chapter 1)	Monday, Sep 19
Midterm 2 (Chapter 2)	Friday, Oct 07
Midterm 3 (Chapters 3-4)	Wednesday, Nov 16
Final Exam (Chapters 1-5)	Monday, Dec 12, 8:00 a.m. – 10:00 a.m

Grading. Grades will be weighted as shown. You can drop your lowest midterm or half the final, and your worst two quizzes. The curve is built before these low scores are dropped.

Each midterm	10%
Quizzes	10%
Final Exam	30%
Written homework	15%
Computer lab write-ups	15%

Prerequisites: Mathematics up through precalculus, or the equivalent. Students with extensive calculus background will find much that is new in this course, but should consult with the professor before signing up.

ADA policy The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union, 1-6020. CDS will work with you and the instructor to make arrangements for accommodations.

Accommodations policy. The instructor does not grant content accommodation requests as the course content fulfills legitimate pedagogical goals

Classroom etiquette: Students will maintain a respectful and safe learning atmosphere, and class will be canceled if this atmosphere is violated.

COURSE OUTLINE

Weeks/Date	Topics	Homework Problems	Due
Weeks 1-4	**Discrete-Time Dynamical Systems**		
Aug 22	1.1		
Aug 24	1.2	6, 10, 14, 26, 30, 40, 42, 54	Aug 29
Aug 26	1.3	6, 10, 12, 24, 26, 30, 42, 46	Aug 29
Aug 28	1.4	10, 12, 18, 22, 40, 42, 52, 54	Sep 07
Aug 31	1.5	8, 12, 14, 18, 26, 30, 38, 54, 58	Sep 07
Sep 02	1.6	6, 12, 18, 22, 30, 38, 42, 44, 46	Sep 12
Sep 07	1.7	6, 8, 16, 20, 24, 34, 42, 46, 56	Sep 12
Sep 09	1.8	2, 10, 26, 30, 32, 38, 42	Sep 16
Sep 12	1.9	4, 6, 12, 16, 20, 24, 34, 42, 46	Sep 16
Sep 14	1.10	2, 8, 24, 28, 34, 36, 40	Sep 16
Sep 16	Review		
Sep 29	Midterm 1		
Weeks 5-7	**Derivatives**		
Sep 21	2.1	6, 12, 18, 26, 30, 36, 38, 40	Sep 06
Sep 23	2.4	6, 8, 18, 22, 30, 34, 38	Oct 03
Sep 26	2.5	2, 4, 12, 14, 18, 34, 36, 42	Oct 03
Sep 28	2.6	4, 8, 10, 18, 32, 36, 40	Oct 03
Sep 30	2.7	2, 10, 16, 24, 34, 42, 44	Oct 07
Oct 03	2.8	4, 12, 20, 24, 38, 42	Oct 07
Oct 05	2.9-2.10	2.9.4, 12, 22, 36, 40; 2.10.8, 32	Oct 07
Oct 07	Midterm 2		
Weeks 8-12	**Derivatives and Dynamics**		
Oct 17	3.1	4, 8, 14, 22, 24, 38	Oct 24
Oct 19	3.2	4, 6, 10, 12, 14, 28, 36	Oct 24
Oct 21	3.3	2, 4, 8, 10, 14, 16, 26, 28, 46	Oct 31
Oct 24	3.6	2, 6, 10, 20, 30	Oct 31
Oct 26	3.7	2, 8, 18, 24, 44, 48	Oct 31
Oct 28	3.8	2, 6, 10, 24, 30	Nov 07
Oct 31	4.1	4, 6, 10, 14, 20, 26, 28	Nov 07
Nov 02	4.2	4, 8, 14, 18, 30, 32, 36	Nov 07
Nov 04	4.3	2, 8, 12, 44, 48, 50	Nov 14
Nov 07	4.4	4, 6, 10, 14, 18, 22, 30, 34, 38	Nov 14
Nov 09	4.5	2, 8, 16, 24, 30, 36	Nov 14
Nov 11	4.6	4, 10, 34, 40, 42	Nov 16
Nov 14	Review		
Nov 16	Midterm 3		
Weeks 12-14	**Autonomous differential equations**		
Nov 18	5.1	4, 8, 18, 22, 28, 40, 42	Nov 28
Nov 21	5.2	2, 6, 10, 14, 16, 22, 34	Nov 28
Nov 23	5.3	2, 4, 8, 14, 22, 36, 42	Nov 28
Nov 28	5.4	2, 6, 8, 22, 26	Dec 05
Nov 30	5.5	4, 8, 12, 26, 32, 34, 36	Dec 05
Dec 02	5.6	2, 6, 16, 20, 26, 34, 36	Dec 09
Dec 05	5.7	2, 6, 8, 12, 14, 32, 42	Dec 09
Dec 07	5.8	5, 6, 8	Dec 09
Dec 12	Final	8:00 a.m. - 10:00 a.m.	